IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

SU-JIN HAN *et al.*

Serial No.:	10/791,854	Examiner:	LEUNG, RICHARD
Filed:	4 March 2004	Art Unit:	4132
For:	SECONDARY BATTERY		

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56, and §§1.97 and 1.98 as amended, Applicant cites, describes, and provides copies of the following art references. Under 37 C.F.R. §1.98(a)(2) however, copies of U.S. patent reference(s) are not provided.

FOREIGN PATENT REFERENCE(S):

- Japanese Patent Publication No. 2002-358948 to Hirayama, entitled *ENCLOSED BATTERY*, published on 13 December 2002.
- Japanese Patent Publication No. 2001-313022 to Watari, entitled *NONAQUEOUS ELECTROLYTE SECONDARY BATTERY*, published on 2001-313022.

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I.D.: REB/rd

- Japanese Patent Publication No. 11-025936 to Izumi *et al.*, entitled *SQUARE SEALED BATTERY AND ITS MANUFACTURE*, published on 29 January 1999.
- Japanese Patent Publication No. 2000-156219 to Togawa *et al.*, entitled *ENCLOSED CELL AND ITS MANUFACTURE*, published on 6 June 2000.
- Japanese Patent Publication No. 2000-021437 to Hatano *et al.*, entitled *MANUFACTURE OF SEALED BATTERY*, published on 21 January 2000.
- Japanese Patent Publication No. 2004-259584 to Imanaga *et al.*, entitled *SEALED BATTERY, ITS MANUFACTURING METHOD, AND COVER PLATE FOR SEALED BATTERY*, published on 16 September 2004.
- Japanese Patent Publication No. 2004-296195 to Morisane *et al.*, entitled *SEALED BATTERY*, published on 21 October 2004.
- Japanese Patent Publication No. 2003-197179 to Kodama *et al.*, entitled *SEALED METOD FOR SECONDARY BATTERY, MANUFACTURING METHOD, AND ELECTROLYTE POURING PORT*, published on 11 July 2003.
- Japanese Patent Publication No. 2004-119329 to Hagino *et al.*, entitled *SECONDARY BATTERY*, published on 15 April 2004.

OTHER DOCUMENT:

- *Office action* from the Japanese Patent Office issued in Applicant's corresponding Japanese Patent Application No. 2004-024398 dated 3 June 2008.

DISCUSSION

As written in the Office action issued by the Japanese Patent Office on the 3 June 2008 in applicant's corresponding Japanese Patent Application corresponding to applicant's above-captioned U.S. Patent Application, **Hirayama, JP'948** discloses that in an enclosed type battery in which the

filler hole provided in the battery can or the lid sealing the opening of the battery can is sealed, the filler hole 5 has a taper face 9 of which area widens toward the outer wall and a cylindrical part 8 that is joined with the taper face and extends toward the inner wall. And a plug 7 which engages with the taper face and the cylindrical part of the filler hole and of which top part is positioned on the same plane as the outer wall is engaged and fitted, and the plug and the wall of the battery can or the lid are fusion bonded 13

Watari, JP'022 discloses that the nonaqueous electrolyte secondary battery is characterized as having a metal battery receptacle 2 and a sealing body for sealing an electrolyte immersion hole 1 equipped with the receptacle, and having the sealing body composed of the main body 41 of the metal sealing body and a rubber plug 42.

Izumi *et al.*, JP'936 discloses that in a square sealed battery using aluminum for a battery case 1 and a cover plate 2 sealing an opening part of the battery case 1, after an electrolyte is injected into the battery from an injection hole for electrolyte injection formed in the cover plate 2 or in the battery case 1, a sealing plug 3 is inserted in a sealing hole, and the injection hole is airtightly sealed by unifying the sealing plug 3 with the cover plate 2 or the battery case 1 by laser welding. The output of 50 W to 300 W, the laser beam diameter of 0.3 mm to 1 mm, the moving speed of 1 mm/sec to 15 mm/sec are desirable for a welding condition.

Togawa *et al.*, JP'219 discloses that a liquid injection hole 10 for injecting electrolyte 30 into an amour can 1 is formed on a cover body 8 or the exterior can 1 of an enclosed cell, a closure body 14 made of a aluminum or aluminium alloy is inserted into the liquid injection hole 10 after the injection of the electrolyte 30, and this inserted closure body 14 is spot welded by the pulse laser beam for sealing the liquid injection hole 10.

Hatano *et al.*, JP'437 discloses that in this manufacturing method, a sealed body 10 is put in an opening part of an outer can, and the periphery thereof is welded to the outer can for seal, and inside of the electrolyte pouring port 11 is filled with the electrolyte. Thereafter, the inside of a

stepped part 11a and the periphery 11b of the electrolyte pouring port 11 extended outward from the stepped part 11a is irradiated with a larger beam A so as to evaporate the electrolyte adhered by spattering at the time of pouring the electrolyte, and a irradiation layer 12 for reforming the coating material such as an oxide film coated by the electrolytic atmosphere to the material, which does not adversely affect welding, so as to eliminate the adhesion of the electrolyte. An electrolyte port plug 13 is inserted into the electrolyte pouring port 11, and a flange part 13a of the electrolyte port plug 13 is fitted in the stepped part 11a, and the laser beam B is irradiated for scanning along a boundary between the flange part 13a and the electrolyte pouring port 11, and the electrolyte port plug 13 and the pouring port 11 are sealed by welding so as to form a welding part 14.

Imanaga *et al.*, JP'584 discloses that the sealed battery has a metallic battery container in which battery components are housed, the pouring hole through which an electrolyte is poured; the cover plate sealing an opening part of the battery container; and the sealing plug sealing the pouring hole. The cover plate is formed so that the whole circumference of the vicinity of the pouring hole is formed thinner than the outer circumference, and the battery is sealed by melting the thinner part and the sealing plug.

Morisane *et al.*, JP'195 discloses that this sealed battery sealed by welding by attaching a sealing member to the injection port of the electrolyte is characterized by that the electrolyte injection port 5 formed in a wall surface of a battery can 2 or a battery header 3 has a counterbore part 6 recessed as compared with the outside wall surface, and an electrolyte injection duct part 7 for mounting an electrolyte port plug in its inside; the electrolyte port plug is welded at the counterbore part 6; and a head part of the electrolyte port plug 8 or a projection generated by welding does not project to the battery can wall surface or the outside wall surface of the battery header 3 across the counterbore part.

Kodama *et al.*, JP'179 discloses that since a metallic rod-shaped plug body 3 is rotatively inserted into the electrolyte pouring port 2 installed in a container 1 of the secondary battery and both

are integrally fixed by frictional heat generating between the plug body and the pouring port, the pouring port is efficiently, surely sealed in a continuous process repeating insertion and cutting of the plug body while the container is conveyed with a conveyer line, and since heat generation in sealing is relatively low, deterioration of an electrolyte in the sealing process can be prevented.

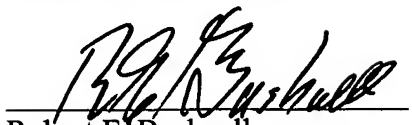
Hagino *et al.*, JP'329 discloses that in the secondary battery, the battery can is provided with the liquid pouring hole 6 for pouring the electrolyte in the assembling process, which is a hole having steps. The liquid pouring hole 6 has a seat surface 62 facing the outside of the battery can, on which seat surface 62 a projected ridge 63 is formed surrounding the liquid pouring hole 6 and extending over the whole circumference thereof, and on which seat surface 62 an elastic member 2 is placed. A metal plate 3 is disposed outside the elastic member 2, and welded to a lid 12 of the battery can in the state that the elastic member 2 is being pressed against the seat surface 62.

Pursuant to 37 CFR § 1.97(d), the undersigned attorney hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application not more than three(3) months prior to the filing of the statement.

The citation of the foregoing references is not intended to constitute an assertion that other or more relevant art does not exist. Accordingly, the Examiner is requested to make a wide-ranging and thorough search of the relevant art.

No fee is incurred by this Statement.

Respectfully submitted,



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